Electronic Version
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Claims

[c1] 1. An apparatus for an internal combustion engine in which for each cylinder and associated piston, at least one inlet valve and at least one exhaust valve is provided for respectively controlling connection between a combustion chamber of the cylinder and an intake system and an exhaust system, a rotatable camshaft and cam thereupon are configured to interact with first and second cam followers in order to switch between two different operating modes, said apparatus comprising:
the first and second cam followers mounted on a pivotal rocker arm, the second cam follower being hydraulically adjustable between two positions by means of a piston located in a hydraulic cylinder;
the hydraulic cylinder being connectable to a hydraulic fluid source via a hydraulic fluid duct; and
the piston being moveable from one position to another by action of a quantity of hydraulic fluid being delivered to the hydraulic cylinder.

[c2] 2. The apparatus as recited in claim 1, further comprising:
a control valve and a non-return valve being connected

between the hydraulic fluid source and the hydraulic cylinder.

[c3] 3. The apparatus as recited in claim 2, wherein the control valve is actuatable by switching between two pressure levels in a hydraulic circuit connected to the hydraulic fluid source.

[c4] 4. The apparatus as recited in claim 1, the piston is fitted in a double-acting piston cylinder.

[c5] 5. The apparatus as recited in claim 4, further comprising:
the control valve in one control position connects the hydraulic fluid source to one side of the piston via the non-return valve, and another side of the piston is connected to a drainage port for hydraulic fluid, and
the non-return valve configured to shut off flow towards the hydraulic fluid source.

[c6] 6. An apparatus for controlling the activity of inlet and exhaust pistons that cooperate with inlet and exhaust ports, respectively, of an internal combustion engine, the apparatus comprising:
a rotatable cam having at least one cam lobe, the rotatable cam being configured to be positioned relative to first and second cam followers so that a revolution of the

rotatable cam causes the cam lobe to actuate both the first and second cam followers for the purpose of instituting two different operational modes of an including internal combustion engine;

the first cam follower mounted to, and stationarily oriented with respect to a pivotal rocker arm;

the second cam follower mounted to, and moveably oriented with respect to the pivotal rocker arm; and

an hydraulic controller interconnecting the first and second cam follower for varying the relative position thereof.